

REMARKS/ARGUMENTS

Reconsideration is respectfully requested of the Office Action of July 25, 2003.

Claim 1 has been amended to overcome the rejection under 35 U.S.C. § 112 and also to define the values for "a", "b+c" and thereby more particularly point out and distinctly claim applicants' contribution to the art.

Of critical importance to obtaining the proper results for this very specialized type of application resides in that the epoxy resin composition must satisfy the expressions, a, b and c which have now been defined in the claims herein. None of the references relied on in the Office Action of July 25, 2003 teach, suggest or motivate anyone skilled in the art to select those parameters whereby these desired results are obtained.

Referring to the Office Action of July 25, 2003, beginning on page 3, the rejection of the claims as anticipated under 35 U.S.C. § 102(b), or in the alternative under 35 U.S.C. 103(a), in view of the several cited references is traversed. The Official Action relies as evidence of anticipation and/or obviousness on *Shiobara* (U.S. Patent 5,418,266), Japanese Patents 11-71444, 11-92631, 11-130938, 11-100490 and 11-100491, as well as the patents of *Takami* (US 6,054,222), *Fujii* (US 6,194,491), *Shiobara* (U.S. Patent 6,083,774), *Okuse* (US 6,177,489), *Arai* (U.S. Patent 6,139,978) or *Arai* (U.S. Patent 5,827,908).

All of the rejections set forth on pages 3 and 4 of the July 25, 2003 Office Action are traversed and reconsideration is respectfully requested.

As described in the application, the epoxy resin composition of the present invention is used for the area mounting type semiconductor devices formed by mounting semiconductor

elements on one side of a printed circuit board or a metallic lead frame and encapsulating with a resin substantially only on the side on which the semiconductor elements are mounted.

The present invention can attain good properties such as less warping after molding and soldering in the area mounting type semiconductor device and excellent reliability in soldering because of particularly good adhesiveness to the organic substrate.

Of record in this case are Tables 1, 2 and 3 which were filed with the RCE. Table 1 relates to examples of the invention and lists the epoxy resin, the curing agent, amount of filler and the type and amount of the curing agent used. References 1, 2, 3, 4 and 6, mentioned in Table 2 are directed to epoxy resin compositions for general semiconductors which are not one side encapsulating type as in the present invention. Thus, a person skilled in the art would find no teaching as to how to prevent warping which is peculiar to one-sided encapsulation type configurations. Reference 5 mentions warping but does not describe all the features of the claims as amended herein. That is, none of these references describe or suggest the parameters of "a", "b" and "c" as set forth in the present claims.

The references 7 to 12 mentioned in Table 3 are directed to epoxy resin compositions for semiconductors which are one side encapsulating type. There is nothing in these references which describes or suggests the parameters of "a", "b" and "c" as defined in Claim 1.

According to the present invention, all three requirements of "a", "b" and "c" must be satisfied in order to obtain an epoxy resin composition and a semiconductor device which have less warping after molding and soldering in the area mounting type semiconductor device and

which have excellent reliability in soldering and the like because of particularly excellent adhesiveness to an organic substrate.

Even when the same kinds of epoxy resin, phenolic resin, curing accelerator and filler are used, good characteristics (e.g., releasability, flowing property, warping amount of package, soldering crack resistance, etc.) cannot be attained unless all three of the requirements for a, b and c are satisfied. Although the Office Action attempts to discredit the comparison of Examples 1, 2 and 6 with Comparative Examples 5 and 6, and comparison of Example 3 with Comparative Example 2, the record herein establishes that characteristics equal to the present invention cannot necessarily be obtained when using the same epoxy resin, phenolic resin, curing accelerator and filler. That is, the results obtained by applicants do not necessarily flow from selecting the components.

The Official Action expresses the reasons in support of the rejection as being inherent in the prior art reference. The inherent teaching of a prior art reference is a question of fact and can arise in both the context of anticipation and obviousness. *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, (Fed. Cir. 1995). It is also well established that an allegation that a certain result or characteristic may occur or be present in the prior art is not a sufficient basis to establish the inherency of that particular result or characteristic. See, *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955 (Fed. Cir. 1993) which reversed a rejection because inherency was based on what would result due to optimization of conditions and not what was necessarily always present in the prior art. See also, *In re Oelrich*, 666 F.2d 578, 212 USPQ 323 (CCPA 1981). To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is

necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. See, *In re Robertson*, 169 F.3d 743, 49 USPQ2d 1949 (Fed. Cir. 1999).

In relying upon the theory of inherency, the burden is upon the examiners to provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. See, *Ex Parte Levy*, 17 USPQ2d 1461 (BPAI 1990).

It is clear from the cases quoted above that the courts have emphasized that in order to sustain a rejection based on inherency, the burden is upon the examiner to establish that the claimed result would necessarily result from the operation of the patented invention.

Consequently, applicants respectfully submit that the record fails to establish that the compositions of the references would necessarily be the same or similar to the present invention. There is no suggestion, teaching or motivation for a person skilled in the art to select the particular combination of components whereby they would satisfy the parameters a, b and c as specified in Claim 1 of this application.

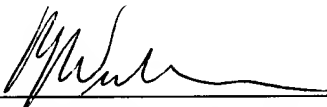
Neither is there any suggestion of the success which applicants have obtained which is demonstrated by the data in the application. Consequently, applicants respectfully submit that the Office Action of July 25, 2003 fails to establish that the claimed subject matter herein is unpatentable under 35 U.S.C. § 102 or 103.

App. No. 09/807,816
Amdt. dated Oct. 22, 2003
Resp. to Office Action dated July 25, 2003

Favorable action at the Examiner's earliest convenience is respectfully requested.

Respectfully submitted,

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